REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

CERTIFIED ENGINEERING GEOLOGIST

May 31, 2018
PLANS APPROVAL DATE

REGISTERED GEOLOGIST
CHRIS A. RISDEN
CERTIFIED ENGINEERING GEOLOGIST
No. 2541
Exp. 9-30-19
STATE OF CALIFORNIA

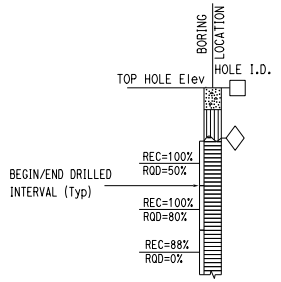
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

$$REC = \frac{\sum \text{LENGTH OF THE RECOVERED CORE PIECES (INCHES)}}{\text{TOTAL LENGTH OF CORE RUN (INCHES)}} \times 100\%$$

$$RQD = \frac{\sum \text{LENGTH OF INTACT CORE PIECES} \geq 4 \text{ INCHES}}{\text{TOTAL LENGTH OF CORE RUN (INCHES)}} \times 100\%$$

RQD* INDICATES SOUDNESS CRITERIA NOT MET.



BEDDING SPACING

DESCRIPTION	THICKNESS / SPACING
MASSIVE	GREATER THAN 10′
VERY THICKLY BEDDED	3′ - 10′
THICKLY BEDDED	1′ - 3′
MODERATELY BEDDED	4" - 1′
THINLY BEDDED	1" - 4"
VERY THINLY BEDDED	1/4" - 1"
LAMINATED	LESS THAN 1/4"

LEGEND OF ROCK MATERIALS

IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

ROCK HARDNESS

DESCRIPTION	CRITERIA
EXTREMELY HARD	CANNOT BE SCRATCHED WITH A POCKETKNIFE OR SHARP PICK. CAN ONLY BE CHIPPED WITH REPEATED HEAVY HAMMER BLOWS.
VERY HARD	CANNOT BE SCRATCHED WITH A POCKETKNIFE OR SHARP PICK. BREAKS WITH REPEATED HEAVY HAMMER BLOWS.
HARD	CAN BE SCRATCHED WITH A POCKETKNIFE OR SHARP PICK WITH DIFFICULTY (HEAVY PRESSURE). BREAKS WITH HEAVY HAMMER BLOWS.
MODERATELY HARD	CAN BE SCRATCHED WITH POCKETKNIFE OR SHARP PICK WITH LIGHT OR MODERATE PRESSURE. BREAKS WITH MODERATE HAMMER BLOWS.
MODERATELY SOFT	CAN BE GROOVED 1/16 INCH DEEP WITH A POCKETKNIFE OR SHARP PICK WITH MODERATE OR HEAVY PRESSURE. BREAKS WITH LIGHT HAMMER BLOW OR HEAVY MANUAL PRESSURE.
SOFT	CAN BE GROOVED OR GOUGED EASILY BY A POCKETKNIFE OR SHARP PICK WITH LIGHT PRESSURE, CAN BE SCRATCHED WITH FINGERNAIL. BREAKS WITH LIGHT TO MODERATE MANUAL PRESSURE.
VERY SOFT	CAN BE READILY INDENTED, GROOVED OR GOUGED WITH FINGERNAIL, OR CARVED WITH A POCKETKNIFE. BREAKS WITH LIGHT MANUAL PRESSURE.

FRACTURE DENSITY

DESCRIPTION	OBSERVED FRACTURE DENSITY
UNFRACTURED	NO FRACTURES.
VERY SLIGHTLY FRACTURED	CORE LENGTHS GREATER THAN 3 ft.
SLIGHTLY FRACTURED	CORE LENGTHS MOSTLY FROM 1 TO 3 ft.
MODERATELY FRACTURED	CORE LENGTHS MOSTLY FROM 4 INCHES TO 1 ft.
INTENSELY FRACTURED	CORE LENGTHS MOSTLY FROM 1 TO 4 INCHES.
VERY INTENSELY FRACTURED	MOSTLY CHIPS AND FRAGMENTS.

WEATHERING DESCRIPTORS FOR INTACT ROCK

DESCRIPTION	DIAGNOSTIC FEATURES					GENERAL CHARACTERISTICS
	CHEMICAL WEATHERING-DISCOLORATION AND/OR OXIDATION		MECHANICAL WEATHERING-GRAIN BOUNDARY CONDITIONS (DISAGGREGATION) PRIMARILY FOR GRANITICS AND SOME COARSE-GRAINED SEDIMENTS	TEXTURE AND LEACHING		
	BODY OF ROCK	FRACTURE SURFACES		TEXTURE	LEACHING	
FRESH	NO DISCOLORATION, NOT OXIDIZED.	NO DISCOLORATION OR OXIDATION.	NO SEPARATION, INTACT (TIGHT).	NO CHANGE	NO LEACHING	HAMMER RINGS WHEN CRYSTALLINE ROCKS ARE STRUCK.
SLIGHTLY WEATHERED	DISCOLORATION OR OXIDATION IS LIMITED TO SURFACE OF, OR SHORT DISTANCE FROM, FRACTURES; SOME FELDSPAR CRYSTALS ARE DULL.	MINOR TO COMPLETE DISCOLORATION OR OXIDATION OF MOST SURFACES.	NO VISIBLE SEPARATION, INTACT (TIGHT).	PRESERVED	MINOR LEACHING OF SOME SOLUBLE MINERALS.	HAMMER RINGS WHEN CRYSTALLINE ROCKS ARE STRUCK. BODY OF ROCK NOT WEAKENED.
MODERATELY WEATHERED	DISCOLORATION OR OXIDATION EXTENDS FROM FRACTURES USUALLY THROUGHOUT; Fe-Mg MINERALS ARE "RUSTY," FELDSPAR CRYSTALS ARE "CLOUDY."	ALL FRACTURE SURFACES ARE DISCOLORED OR OXIDIZED.	PARTIAL SEPARATION OF BOUNDARIES VISIBLE.	GENERALLY PRESERVED	SOLUBLE MINERALS MAY BE MOSTLY LEACHED.	HAMMER DOES NOT RING WHEN ROCK IS STRUCK. BODY OF ROCK IS SLIGHTLY WEAKENED.
INTENSELY WEATHERED	DISCOLORATION OR OXIDATION THROUGHOUT; ALL FELDSPARS AND Fe-Mg MINERALS ARE ALTERED TO CLAY TO SOME EXTENT; OR CHEMICAL ALTERATION PRODUCES IN-SITU DISAGGREGATION, SEE GRAIN BOUNDARY CONDITIONS.	ALL FRACTURE SURFACES ARE DISCOLORED OR OXIDIZED, SURFACES FRIABLE.	PARTIAL SEPARATION, ROCK IS FRIABLE; IN SEMIARID CONDITIONS GRANITICS ARE DISAGGREGATED.	TEXTURE ALTERED BY CHEMICAL DISINTEGRATION (HYDRATION, ARGILLATION).	LEACHING OF SOLUBLE MINERALS MAY BE COMPLETE.	DULL SOUND WHEN STRUCK WITH HAMMER, USUALLY CAN BE BROKEN WITH MODERATE TO HEAVY MANUAL PRESSURE OR BY LIGHT HAMMER BLOW WITHOUT REFERENCE TO PLANES OF WEAKNESS SUCH AS INCIPIENT OR HAIRLINE FRACTURES, OR VEINLETS. ROCK IS SIGNIFICANTLY WEAKENED.
DECOMPOSED	DISCOLORED OR OXIDIZED THROUGHOUT, BUT RESISTANT MINERALS SUCH AS QUARTZ MAY BE UNALTERED; ALL FELDSPARS AND Fe-Mg MINERALS ARE COMPLETELY ALTERED TO CLAY.		COMPLETE SEPARATION OF GRAIN BOUNDARIES (DISAGGREGATED).	RESEMBLES A SOIL, PARTIAL OR COMPLETE REMNANT ROCK STRUCTURE MAY BE PRESERVED; LEACHING OF SOLUBLE MINERALS USUALLY COMPLETE.		CAN BE GRANULATED BY HAND. RESISTANT MINERALS SUCH AS QUARTZ MAY BE PRESENT AS "STRINGERS" OR "DIKES."

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LEGEND - ROCK

NO SCALE

A10H

2018 STANDARD PLAN A10H

1-26-18